2012 Annual Drinking Water Quality Report

City Of New Castle
Municipal Services Commission
216 Chestnut Street
New Castle, Delaware 19720
Public Water System ID # DE0000634
June 1, 2012

The Municipal Services Commission is charged with the responsibility of providing you clean, safe drinking water, in fact it's the law, a federal law (The Safe Drinking Water Act) which we are happy to comply with. This Consumer Confidence Report is designed to let you know where your water comes from, what it contains and any risks water testing and treatment are designed to prevent.

The reporting period for this report is January 1, 2011 to December 31, 2011. The MSC wants you to know we are committed to providing you with the safest, most reliable water supply available.

Where Does New Castle's Water Come From?

The sources of drinking water, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and radioactive material, and can pick up substances resulting from the presence of animals or from human activity. The source of the MSC's water is the Potomac Aquifer which is a confined aquifer who's natural filtering characteristics helps to protect our customers from contaminants. The Division of Public Health in conjunction with the Department of Natural Resources and Environmental Control has conducted a source water assessment for the City of New Castle's community water system. Please contact Chip Patterson of the Municipal Services Commission (302) 323-2330 regarding how to obtain a copy of this assessment. You may also review it on the website: http://www.wr.udel.edu/swaphome/index.html.

Where Do Contaminants Come From?

A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
D) Organic chemical contaminants, including synthetic and volatile organics, which are by products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

Are There Limits To Contaminants?

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Lead In Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The Municipal Services Commission is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure are available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Are Some People At A Greater Risk From Contaminants?

Some people may be more vulnerable to contaminants in drinking water than in the general population. Immuno-compromised persons such as persons with cancer under going chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800-426-4791).

Does The MSC Do Only The Minimum Checks The Law Requires?

The MSC has tested or has had its water tested by other agencies to look for contaminants which may not be regulated substances. The Commission had DNREC test for contaminants which may have leaked from landfills in close proximity to its wells. The EPA and State of Delaware have not set standards for monitoring Radon at this time, none the less the Commission has tested for Radon in its source water and found minimal traces.

The Commission tested for Perfluorochemicals (PFCs) or Teflon© Precursors which have been showing up in drinking water supplies in Maryland and New Jersey even though the EPA does not regulate these substances. Three sets of tests have shown the presence of PFOA and PFOS in our source water. The MSC has shared this information with the State Office of Drinking Water and Toxicologist. In January 2009, the EPA set short-term provisional health advisory values for PFOA at 0.4ppb and PFOS at 0.2ppb. Epidemiological studies of exposure to PFOA, PFOS and adverse health outcomes in humans are inconclusive at present.

What's The Bottom Line?

Your drinking water meets or surpasses all federal and state drinking water standards. We at the Municipal Services Commission work hard to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

If you should have any questions about this report or concerning your water utility, please contact: Chip Patterson Tel: (302) 323-2330, Fax: (302) 323-2337 Email:pattersonc@newcastlecity.com Or look for us on the city web page at www.newcastlemsc.com

Water Purchases

In 2011, the Municipal Services Commission completed a 4 month long renovation of our School Lane Water Treatment Facility. During these renovations, the Commission purchased water from Artesian Water Company. From January 1 through January 20, 2011 the Commission purchased an average of 473,050 gallons of water per day.

Artesian Water draws their supply from wells located in the same aquifers as the Commissions. The water purchased was in compliance with all State and Federal regulations during the time the Commission was receiving water.

If you would like additional information about Artesian Water's supply, please visit their web site at www.artesianwater.com, select the Customer Service Center tab, select the Artesian Pipeline Newsletter tab, and select the most recent Water Quality Report.

This report is based upon tests conducted by the Office of Drinking Water, Division of Public Health, State of Delaware. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Inorganic Contaminants	Unit of Measure	MCL	MCLG	LEVEL DETECTED	ANNUAL RANGE	DATE SAMPLES	VIOLATION	MAJOR SOURCES OF CONTAMINANTS / SUBSTANCES
Arsenic	ppb	10	0	2	nd-2.0	2007	No	Erosion of natural deposits.
Fluoride	ppm	2	1.2	1.19	0.64-1.19	2011	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate	ppm	10	10	3.6	2.4-3.6	2011	No	Runoff from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits.
Barium	ppb	2	2	115.5	115.5-115.5	2007	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits.
Chromium	ppb	0.1	0.1	1.2	1.2-1.2	2007	No	Discharge from steel and pulp mills; erosion of natural deposit.
Nickle	ppb	0.1	0.1	8.2	8.2-8.2	2007	No	Nickel occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products.

Radiological Contaminants	Unit of Measure	MCL	MCLG	LEVEL DETECTED	ANNUAL RANGE	DATE SAMPLES	VIOLATION	MAJOR SOURCES OF CONTAMINANTS / SUBSTANCES
Radium, Combined (226.228)	pCi/l	5	0	2.1	2.1-2.1	2011	No	Erosion of natural deposits.
Gross Alpha Particle	pCi/l	15	0	4.4	4.4-4.4	2011	No	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation.
Gross Bata Particle	pCi/l	50*	0	2.2	2.2-2.2	2009	No	Decay of natural and man made deposits that are radioactive and may emit a form of radiation known as beta radiation.

*The US EPA considers the level of concern to be 50 pCi/l for Beta Particles. The MCL for Beta Particles is 4 mrem/year.

Disinfection/ Disinfection By-Products	Unit of Measure	MCL	MCLG	LEVEL DETECTED	ANNUAL RANGE	DATE SAMPLES	VIOLATION	MAJOR SOURCES OF CONTAMINANTS / SUBSTANCES
Chlorine, Free (2)	ppm	n/r	0.8	1.10	0.46-1.10	2011	No	Disinfectant used in the drinking water industry.
Haloacetic Acids Total	ppb	60	0	1.279	1.279-1.279	2010	No	By-product of drinking water chlorination
Trihalomenthanes, Total	ppb	80	0	5.1	5.10-5.10	2007	No	By-product of drinking water chlorination

Results of Lead and Cooper Testing (2011 data)- under this rule, the Commission is required to sample for these contaminants every three years. No samples exceeded the (MCL) Maximum Contaminant Level requiring action. The Commission will be collecting new samples for monitoring in the Summer of 2014.

Lead and Cooper	Unit of Measure	MCLG	AL	90TH PERCENTILE	# OF SITES OVER AL	DATE SAMPLES	VIOLATION	MAJOR SOURCES OF CONTAMINANTS / SUBSTANCES
Copper- 90th Percentile	ppm	1.3	1.3	0.07	0	2011	No	Corrosion of household plumbing system and erosion of natural deposit.

Unregulated Contaminants	Unit of Measure	MCL	MCLG	LEVEL DETECTED	ANUAL RANNGE	DATE SAMPLED
Alkalinity	ppm	n/r	n/r	21	21-21	2011
Chloride	ppm	n/r	250	66.0	42.3-66.0	2011
Hardness Total	ppm	n/r	n/r	26.6	26.6-26.6	2011
pH, Field (3)	0-14 scale	n/r	6.5-8.5	8.1	7.4-8.1	2011
Sodium	ppm	n/r	50	16.3	16.3-16.3	2011
Temperature	Deg-C	n/r	n/r	16	12-16	2011
Total Dissolved Solids (TDS)	ppm	n/r	500	168	168-168	2011
Sulfate	ppm	n/r	250	11.1	8.5-11.1	2011
Perfluorooctanoic Acid (PFOA)	ppb	n/r	0.4	0.099	0.092-0.099	2010
Perluorooctane Sulfonic Acid (PFOS)	ppb	n/r	0.2	0.40	0.33-0.40	2010

Microbiological Contaminants- Total Coliform Bacteria

120 Samples, 10 per month, were collected during 2011.

All samples collected were absent of Coliform Bacteria.

Number of Violations: None

Major Sources: Naturally present in the environment.

Annual Average Readings

1)Average Fluoride reading was 0.94 ppm

2)Average Chlorine Reading was 0.95 ppm

3)Average pH Reading was 7.63 on the 0 - 14 Scale

Note: Averages are based upon the daily water quality readings taken at the Commission's School Lane Treatment Facility.

Municipal Services Commission Water System Facts

Metered Customers: 2083 Customers

Annual Water Supply: 177,485,950 Gallons

Miles of Water Mains: 27 Miles

Average Daily Water Demand: 486,263 Gallons per Day

Peak Day Water Demand: 1,227,700 Gallons per Day

Active Wells: 3 Wells

Treatment Facilities: 1 Facility

Storage Capacity: 1.6 Million Gallons

Public Fire Hydrants: 163

Average Cost for Residential Water Service: $1.42 per day

Definitions:

90th Percentile - the ninth highest reading (of 10 samples), which is used to determine compliance with the Lead and Copper Rule.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Maximum Contaminant Level (MCL) - the highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible.

Maximum Contaminant Level Goal (MCLG) - the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

Maximum Residual Disinfectant Goal (MRDLG) - the level of drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level (MRDL) - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Not Applicable (n/a) - field is not applicable to the substance.

Non-Detect (nd) - laboratory analysis indicates that the constituent is not present.

Not Regulated (n/r) - no MCL is identified because these substances are unregulated.

Parts Per Million (ppm) - 1 part per million corresponds to 1 minute in 2 years, or a single penny in $10,000.

Parts Per Billion (ppb) - 1 part per billion corresponds to 1 minute in 2000 years, or a single penny in $10,000,000.

Picocuries Per Liter (pCi/l) - a measure of the radioactivity in water.